

IN THE CLAIMS

1. (original) Method of diagnosing in an individual recent exposure to an agent which is a pathogen, vaccine or any other moiety which induces a cellular response, said method comprising determining ~~in-vitro~~ whether the T cells of the individual recognise a protein from said agent having a length of at least 30 amino acids, to a greater extent than one or more peptide epitopes from the agent, a greater extent of recognition of the protein indicating that the individual has recently been exposed to the agent.

2. (original) Method according to claim 1 comprising determining whether T cells of the individual exhibit a greater reaction to a protein from said agent having a length of at least 30 amino acids than to one or more peptide epitopes from the agent, a greater reaction indicating that the individual has recently been exposed to the agent.

3. (currently amended) Method according to claim 1 wherein determining whether the T cells recognise said protein is performed by ~~determining the reaction of the T cells to~~ employing an analogue of the protein which is recognised by T cells which recognise said protein, wherein said analogue has a length of at least 30 amino acids.

4. (currently amended) Method according to claim 1 ~~[[or 3]]~~ wherein determining whether the T cells recognise said peptide epitope is performed by ~~determining the reaction of the T cells to~~ employing an analogue of the peptide epitope which analogue is recognised by T cells which recognise said peptide epitope.

5. (currently amended) Method according to ~~any one of the preceding claims~~ claim 1 comprising:

(i) contacting a first population of T cells from the individual with (a) one or more peptide epitopes from the agent, or (b) an analogue of said peptide(s) which is recognised by T cells that recognise said peptide(s), and determining the reaction of the T cells to the peptide(s) or analogue(s), and

(ii) contacting a second population of T cells from the individual with (a) a protein from the agent, or (b) an analogue of said protein which is recognised by T cells that recognise said protein, wherein the protein or analogue has a length of at least 30 amino acids and determining the reaction of the T cells to the protein or analogue.

6. (currently amended) Method according to ~~any one of the preceding claims~~ claim 1 in which the individual is diagnosed as having been exposed to the agent recently if there is substantially no reaction of the T cells to the peptide epitope or an analogue thereof.

7. (currently amended) Method according to ~~any one of the preceding claims~~ claim 1 in which the protein or its analogue comprises at least the amino acid sequence of the peptide epitope or ~~[[its]]~~ an analogue thereof, which analogue is recognised by T cells which recognise said peptide epitope.

8. (currently amended) Method according to ~~any one of the preceding claims~~ claim 1 in which the peptide epitope, or the analogue of the peptide epitope, has a length of 8 to 29 amino acids.

9. (currently amended) Method according to ~~any one of the preceding claims~~ claim 1 wherein whether or not the T cells recognise a pool of a least 4 peptide epitopes, or analogues thereof, is determined.

10. (currently amended) Method according to ~~any one of the preceding claims~~ claim 1 wherein a pool of peptide epitopes and/or analogues which together represent all of the possible epitopes from the protein is used.

11. (currently amended) Method according to ~~any one of the preceding claims~~ claim 1 in which during detection of the ~~reaction~~ response of the T cells to the protein, or the analogue of the protein, antigen presenting cells are present which are capable of processing the protein and presenting it to the T cells.

12. (currently amended) Method according to ~~any one of the preceding claims~~ claim 1 wherein the pathogen is an intracellular pathogen or the vaccine is against an intracellular pathogen.

13. (currently amended) Method according to ~~any one of the preceding claims~~ claim 12 wherein the pathogen is HPV, HIV, SIV, HCV, a Chlamydia species, HBV, EBV, CMV, VZV, HSV, Legionella, S. typhi, P. falciparum, Leishmaniasis, M. leprae, influenza virus, foot and mouth virus, a Toxoplasma species, a Brucella species, a Cryptococcus species, a Candida species or an Aspergillus species; or the vaccine is against any of these pathogens.

14. (currently amended) Method according to ~~any one of claims 1 to 12~~ claim 12 wherein the pathogen is *M. tuberculosis* or the vaccine is against *M. tuberculosis*.

15. (currently amended) Method according to ~~any one of the preceding claims~~ claim 1 wherein the protein and/or ~~epitope~~ peptide epitope(s) is from ESAT-6 or CFP10.

16. (currently amended) Method according to ~~any one of the preceding claims~~ claim 15 wherein the peptide(s) is chosen from one or more of the following peptide epitopes:

MTEQQWNFAGIEAAA	<u>(SEQ ID NO:1).</u>
WNFAGIEAAASAIQG	<u>(SEQ ID NO:2).</u>
IEAAASAIQGNVTSI	<u>(SEQ ID NO:3).</u>
SAIQGNVTSIHSLLD	<u>(SEQ ID NO:4).</u>
NVTSIHSLLDDEGKQS	<u>(SEQ ID NO:5).</u>
HSLLDDEGKQSLTKLA	<u>(SEQ ID NO:6).</u>
EGKQSLTKLAAAWGG	<u>(SEQ ID NO:7).</u>
LTKLAAAWGGSGSEA	<u>(SEQ ID NO:8).</u>
AAWGGSGSEAYQG VQ	<u>(SEQ ID NO:9).</u>
SGSEAYQG VQ QKWD A	<u>(SEQ ID NO:10).</u>
YQG VQ QKWD ATATEL	<u>(SEQ ID NO:11).</u>
QKWD ATATEL NNALQ	<u>(SEQ ID NO:12).</u>

TATELNNALQNLART	(SEQ ID NO:13).
NNALQNLARTISEAG	(SEQ ID NO:14).
NLARTISEAGQAMAS	(SEQ ID NO:15).
ISEAGQAMASTE GNV	(SEQ ID NO:16).
QAMASTE GNV TGMFA	(SEQ ID NO:17).
MAEMKTDAATLAQEA	(SEQ ID NO:18).
TDAATLAQEAGNFER	(SEQ ID NO:19).
LAQEAGNFERISGDL	(SEQ ID NO:20).
GNFERISGDLKTQID	(SEQ ID NO:21).
ISGDLKTQIDQVEST	(SEQ ID NO:22).
KTQIDQVESTAGSLQ	(SEQ ID NO:23).
QVESTAGSLQGQWRG	(SEQ ID NO:24).
AGSLQGQWRGAAGTA	(SEQ ID NO:25).
GQWRGAAGTAAQAAV	(SEQ ID NO:26).
AAGTAAQAAV VRFQE	(SEQ ID NO:27).
AQAAV VRFQE AANKQ	(SEQ ID NO:28).
VRFQE AANKQ KQELD	(SEQ ID NO:29).
AANKQ KQELDEISTN	(SEQ ID NO:30).
KQELDEISTNIRQAG	(SEQ ID NO:31).
EISTNIRQAGVQYSR	(SEQ ID NO:32).
IRQAGVQYSRADEEQ	(SEQ ID NO:33).
VQYSRADEEQ QQALS	(SEQ ID NO:34).
ADEEQ QQALSSQMGF	(SEQ ID NO:35).

or an analogue thereof which is recognised by a T cell which recognises the peptide epitope.

17. (currently amended) Method according to ~~any one of the preceding claims~~ claim 1 wherein recognition of the one or more peptide ~~epitope or its analogue or of epitopes~~ and the protein, ~~or its analogue~~ is determined by detecting secretion of a cytokine from the T cells.

18. (original) Method according to claim 17 in which the cytokine is IFN- γ .

19. (currently amended) Method according to claim 17 [[or 18]] in which the cytokine is detected by allowing the cytokine to bind to an immobilised antibody specific to the cytokine and then detecting the presence of the antibody/cytokine complex.

Claims 20-22 (canceled)

23. (original) A product comprising a protein from an agent which is a pathogen, vaccine or any other moiety which induces a cellular response, said protein having a length of at least 30 amino acids, and/or one or more peptide epitopes from the agent for separate, simultaneous or sequential use in a method of diagnosing in an individual recent exposure to the agent, said method comprising determining whether the T cells of the individual recognise the protein to a greater extent than the peptide epitope(s), a greater extent of recognition of the protein indicating that the individual has recently been exposed to the agent.

24. (currently amended) Method of treating an individual comprising administering to an individual diagnosed as having been exposed recently to a pathogen by a method according to ~~any of the preceding claims~~ claim 1, a product which ~~prevent~~ prevents or treats the condition caused by the pathogen.

Claim 25 (canceled)

26. (currently amended) Method ~~or use~~ according to claim 24 [[or 25]] wherein the pathogen is *M. tuberculosis* and/or the ~~agent~~ product is rifampicin, isoniazid, pyrazinamide, ethambutol, streptomycin, para-amino-salicylic acid, kanamycin, capreomycin, ethionamide, cycloserine, thiacetazone or a flouroquinolone, or an analogue of such ~~an agent~~ product.

27. (currently amended) A kit for carrying out the method of ~~any one of claims 1 to 21~~ claim 1 comprising (i) said one or more ~~epitope~~ peptide ~~or said analogue thereof~~ epitopes and (ii) said protein ~~or said analogue thereof~~, wherein any of said one or more peptide epitopes and/or said protein may be substituted by an analogue which is recognized by T cells which recognize the peptide epitope or protein, and optionally also a means to detect whether T cells recognize (i) and (ii).

28. (currently amended) A kit according to claim 27 which also comprises a product which prevents or treats the condition caused by the pathogen which can be diagnosed using said one or more peptides or said protein ~~an agent as defined in any one of claims 24 to 26~~.

Claims 29-94 (canceled)